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| 10/717,686 | 11/20/2003 | Brian W. Hedrick | 106010-1 | 9328 |

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| EXAMINER | |
|---|---|
| LEUNG, JENNIFER A | |

| ART UNIT | PAPER NUMBER |
|---|---|
| 1764 | |

DATE MAILED: 09/22/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

| Office Action Summary | Application No. | Applicant(s) | |
|---|---|---|---|
| | 10/717,686 | HEDRICK ET AL. | |
| | Examiner | Art Unit | |
| | Jennifer A. Leung | 1764 | |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☒ Responsive to communication(s) filed on *30 June 2005*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) *1-6 and 8* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-6 and 8* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

## DETAILED ACTION

### *Response to Amendment*

1. Applicant's amendment submitted on June 30, 2005 has been received and carefully considered. Claim 7 is canceled. Claims 1-6 and 8 remain active.

### *Terminal Disclaimer*

2. The terminal disclaimer filed on June 30, 2005 disclaiming the terminal portion of any patent granted on this application which would extend beyond the expiration date of U.S. Patent No. 6,740,227 has been reviewed and is accepted. The terminal disclaimer has been recorded. The rejection of claims 1-8 under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 19-27 of U.S. Patent No. 6,740,227 is withdrawn.

### *Inventorship*

3. In view of the papers filed on June 30, 2005, the inventorship in this nonprovisional application has been changed by the deletion of Thuy Khanh T. Nguyen. The application will be forwarded to the Office of Initial Patent Examination (OIPE) for issuance of a corrected filing receipt, and correction of Office records to reflect the inventorship as corrected. The rejection of claims 1-8 under 35 U.S.C. 102(e) as being anticipated by Hedrick (US 6,740,227) is withdrawn.

### *Claim Rejections - 35 USC § 112*

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 1-6 and 8 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claim 1, it is unclear as to whether applicant is attempting to recite a Markush group limitation by the language of, "a first imaginary line extending laterally on said baffle and substantially parallel to *one of* said top edge, said bottom edge and a second imaginary line bifurcating said baffle into equal areas," (lines 13-15).

***Claim Rejections - 35 USC § 103***

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

5. Claims 1-6 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ostergaard (US 2,519,150).

Regarding claims 1, 2 and 4, Ostergaard (FIG. 1; column 5, line 16 to column 7, line 35) discloses an apparatus comprising:

a stripping vessel (i.e., stripper shell **2**);

at least one port defined by the stripping vessel **2**, wherein said port comprises a single opening at the top of the stripping vessel **2** (see FIG. 1)

a plurality of sloped stripping baffles (i.e., funnel shaped baffles **8**, **9**; conical baffle **13**) spaced apart vertically over at least a portion of the stripping vessel height, with each baffle having a sloped surface;

a plurality of openings (i.e., perforations **15**, **16**, **17**) located on an "upper part" of each baffle **8**, **9**, **13** (column 5, lines 42-47);

at least one fluid inlet for passing a stripping fluid to the underside of at least one baffle (i.e., stripping fluid inlet **18**); and

a particle outlet (i.e., standpipe **4**) for recovering stripped particles from the baffles.

In comparing baffles **8**, **9** and **13** of Ostergaard (FIG. 1) to the baffles disclosed by Applicant (FIG. 2 of the disclosure), the "upper part" of each of the funnel shaped baffles **8** and **9** corresponds to Applicant's outer baffle **35**, and the "upper part" of conical baffle **13** corresponds to Applicant's inner baffle **37**. Hence, the "lower part" of each of the baffles **8**, **9** and **13** corresponds to Applicant's vertical skirts **50** and **52** for baffles **35** and **37**, respectively.

A "first imaginary line" that extends laterally on each baffle to demarcate a top section, proximate a top edge of the baffles, and a bottom section, proximate a bottom edge of the baffles, would thus bifurcate the perforated "upper part" of each of the baffles **8**, **9** and **13** to comprise two sections of a desired ratio of areas (i.e., the upper part comprises both the top section and the bottom section).

A "second imaginary line" that bifurcates each baffle into equal areas would thus bifurcate the perforated "upper part" of each of the baffles **8**, **9** and **13** to comprise two sections of equal area (i.e., the upper part comprises both the top section and the bottom section).

Ostergaard is silent as to the division of the baffles **8**, **9** and **13** by imaginary lines such that a "ratio of the total area of openings in the bottom section to the area of the bottom section of said baffle" is greater than a "ratio of the total area of openings in the top section to the area of the top section of said baffle," and a total area of openings in the bottom section is greater than in the top section of said baffle.

Ostergaard, however, discloses that the plurality of openings may be disposed "*at or adjacent to* the outlets from the constricted passages [i.e., throat **10** or annular space **14**; FIG. 1]," (column 4, lines 59-74), and the placement of openings is selected such that,

> "Contact of the dense catalyst stream [of a density of about 25 pounds per cubic foot] with the stripping medium serves to displace a still greater portion of the entrained

> hydrocarbons and also serves to reduce the density of the catalyst suspension to approximately 15 pounds per cubic foot." (column 6, lines 20-51).

Thus, it would have been obvious for one of ordinary skill in the art at the time the invention was made to configure the ratio of opening area per section area, and the area of openings per section, such that the ratio and the area of openings in the bottom section of each baffle was greater than in the top section of each baffle in the apparatus of Ostergaard, on the basis of suitability for the intended use, because the opening area per bottom section relative to the top section would have been considered a result effective variable by one having ordinary skill in the art. Accordingly, one having ordinary skill in the art would have routinely optimized the area of openings in the bottom section relative to the top section to obtain the desired change in catalyst stream density at each of the baffle stages, to strip a desired portion of entrained hydrocarbon from the catalyst at each stage, *In re Boesch*, 617 F.2d. 272, 205 USPQ 215 (CCPA 1980), and it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233.

Furthermore, it is noted that claim 1, lines 10-15, recites,

> "... each baffle having a top section proximate a top edge of said baffle and a bottom section proximate a bottom edge of said baffle, said top section and said bottom section being demarcated by a first imaginary line extending laterally on said baffle and substantially parallel to one of said top edge, said bottom edge and a second imaginary line bifurcating said baffle into equal areas..."

Therefore, the language of the claim suggests that the placement of the first imaginary line on the baffle may be arbitrarily selected, as long as the first imaginary line is placed substantially parallel to either the top edge, the bottom edge, or the second imaginary line (i.e., "*one of* said

top edge, said bottom edge and a second imaginary line...).

Looking now to Figure 1 of Ostergaard, for example, by selecting the "first imaginary line" to lie substantially parallel to the top edge of the baffles **8**, **9** and **13** at a location immediately below the uppermost row of perforations **15**, **16**, **17**, it can be seen that a top section and a bottom section of each baffle can be selected to comprise a "ratio of the total area of openings in the bottom section to the area of the bottom section of said baffle" that is greater than a "ratio of the total area of openings in the top section to the area of the top section of said baffle," and a total area of openings in the bottom section that is greater than in the top section of said baffle. (see EXAMPLE A in the "Response to Arguments" section).

Regarding claim 3, Ostergaard discloses each stripping baffle **8**, **9**, **13** having a transverse projection equal to at least one-third of the minimum transverse cross-section of the stripping vessel **2** at that baffle location (see FIG. 1).

Regarding claim 5, Ostergaard is silent as to the distance between adjacent openings **15**, **16** or **17** being smaller in the bottom section of the baffle **8**, **9** or **13** than in the top section of the baffle. In any event, it would have been obvious for one of ordinary skill in the art at the time the invention was made to configure the openings of the baffles as such in the apparatus of Ostergaard, on the basis of suitability for the intended use, because the shifting of location of parts merely involves ordinary skill in the art, and it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art.

Regarding claim 6, Ostergaard discloses the openings **15**, **16**, **17** in each of said baffles **8**, **9**, **13** are distributed in rows substantially parallel to one of said top and bottom edges (i.e., "In

the upper part of the funnel shaped baffles **8** and **9** and in the upper part of the conical baffle **13** are rows of perforations or openings **15**, **16** and **17**, respectively, which are preferably horizontal or substantially horizontal," column 5, lines 42-47).

Regarding claim 8, Ostergaard is silent as to the division of the baffles **8**, **9**, **13** by imaginary lines, wherein the "first imaginary line" and the "second imaginary line" both bifurcate the baffles into equal areas. However, it is noted that claim 1, lines 10-13, recites,

> "... each baffle having a top section proximate a top edge of said baffle and a bottom section proximate a bottom edge of said baffle, said top section and said bottom section being demarcated by a first imaginary line extending laterally on said baffle."

Therefore, the language of the claim suggests that the boundaries that designate each of the regions corresponding to the top section and the bottom section of the baffles may be arbitrarily selected, as long as the boundaries that designate each of the regions do not cross the boundary designated by the first imaginary line or the second imaginary line, and as long as the top section is selected to be relatively near the top edge of the baffle and the bottom section is selected to be relatively near the bottom edge of the baffle.

Looking now to Figure 1 of Ostergaard, for example, by selecting the "first imaginary line" to lie substantially parallel to the top edge of the baffles **8**, **9** and **13** at a location that divides each of the baffles into equal areas, it can be seen that a top section and a bottom section of each baffle can be selected to comprise a "ratio of the total area of openings in the bottom section to the area of the bottom section of said baffle" that is greater than a "ratio of the total area of openings in the top section to the area of the top section of said baffle." (see EXAMPLE B in the "Response to Arguments" section).

***Response to Arguments***

6. Applicant's arguments filed on June 30, 2005 have been fully considered but they are not persuasive.

Beginning on page 6, within the last paragraph, Applicants argue,

> "... the drawings in the Ostergaard patent do not disclose any differentiation in the concentration of openings per area of the baffle from top to bottom sections of the baffle. Indeed, the openings appear to be uniformly spaced and disposed only near the top end of the baffles. The description expressly locates the "rows of perforations or openings" in the "upper part" of the baffles...".

The Examiner respectfully disagrees and maintains that the apparatus of Ostergaard structurally reads on the claims. First, in response to Applicants' comment that Ostergaard only discloses "rows of perforations or openings" in the "upper part" of the baffles, the Examiner has defined in the rejection, above, that the named "upper part" would correspond to the both the named "top section" and "bottom section" according to Applicants' specification. As stated above,

> "In comparing baffles **8, 9** and **13** of Ostergaard (FIG. 1) to the baffles disclosed by Applicant (FIG. 2 of the disclosure), the "upper part" of each of the funnel shaped baffles **8** and **9** corresponds to Applicant's outer baffle **35**, and the "upper part" of conical baffle **13** corresponds to Applicant's inner baffle **37**. Hence, the "lower part" of each of the baffles **8, 9** and **13** corresponds to Applicant's vertical skirts **50** and **52** for baffles **35** and **37**, respectively."

Secondly, claim 1, lines 10-15, currently recites,

> "... each baffle having a top section proximate a top edge of said baffle and a bottom section proximate a bottom edge of said baffle, said top section and said bottom section being demarcated by a first imaginary line extending laterally on said baffle and [said first imaginary line] substantially parallel to one of said top edge, said bottom edge and a

second imaginary line bifurcating said baffle into equal areas..."

The language of the claim suggests that,

i) The placement of the first imaginary line on the baffle may be arbitrarily selected, as long as the first imaginary line is placed substantially parallel to either the top edge, the bottom edge, or the second imaginary line.

ii) Only the second imaginary line needs to bifurcate the baffle into equal areas.

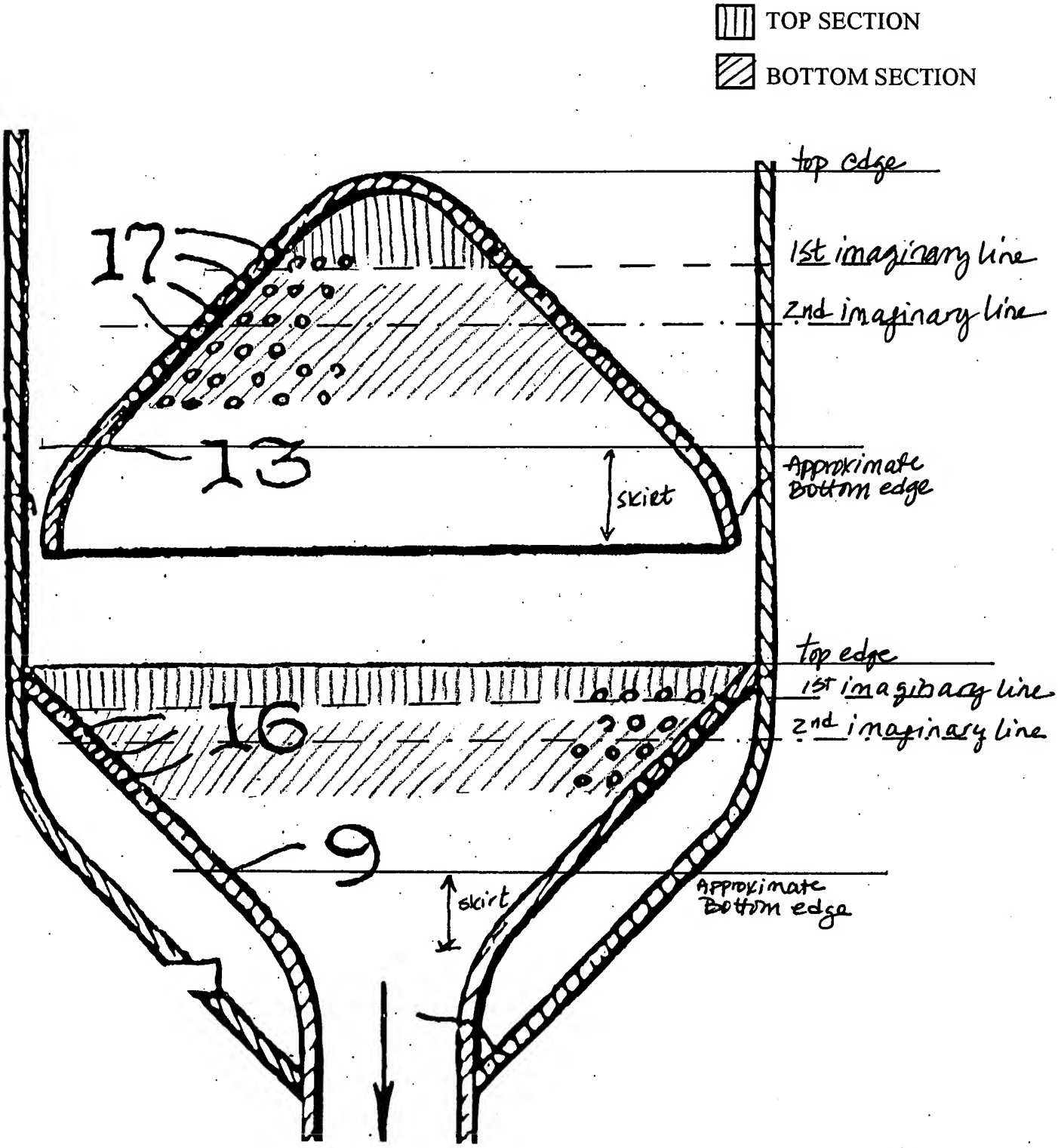
iii) Because the first imaginary line does not necessarily bifurcate the baffle into equal areas, the top section of the baffle and the bottom section of the baffle are not necessarily of equal areas.

iv) The boundaries of the regions designating the top section and the bottom section may be arbitrarily selected, as long as the top section is relatively near the top edge of the baffle, the bottom section is relatively near the bottom edge of the baffle, and the boundaries of the regions do not cross the first imaginary line.

Regarding claim 1, the baffles may, for example, be divided according to EXAMPLE A (see attached figure), wherein the first imaginary line is selected to demarcate the top section from the bottom section immediately below the top row of perforations, and the boundaries of the regions designating the top section and bottom section are shown according to the different shadings. Regarding claim 8, wherein the "first imaginary line bifurcates the said baffle into equal areas," the baffles may, for example, be divided according to EXAMPLE B (see attached figure), wherein the first imaginary line is selected to demarcate the top section from the bottom section at the location that divides the baffle into two equal areas, and the boundaries of the regions designating the top section and bottom section are shown according to the different shadings.

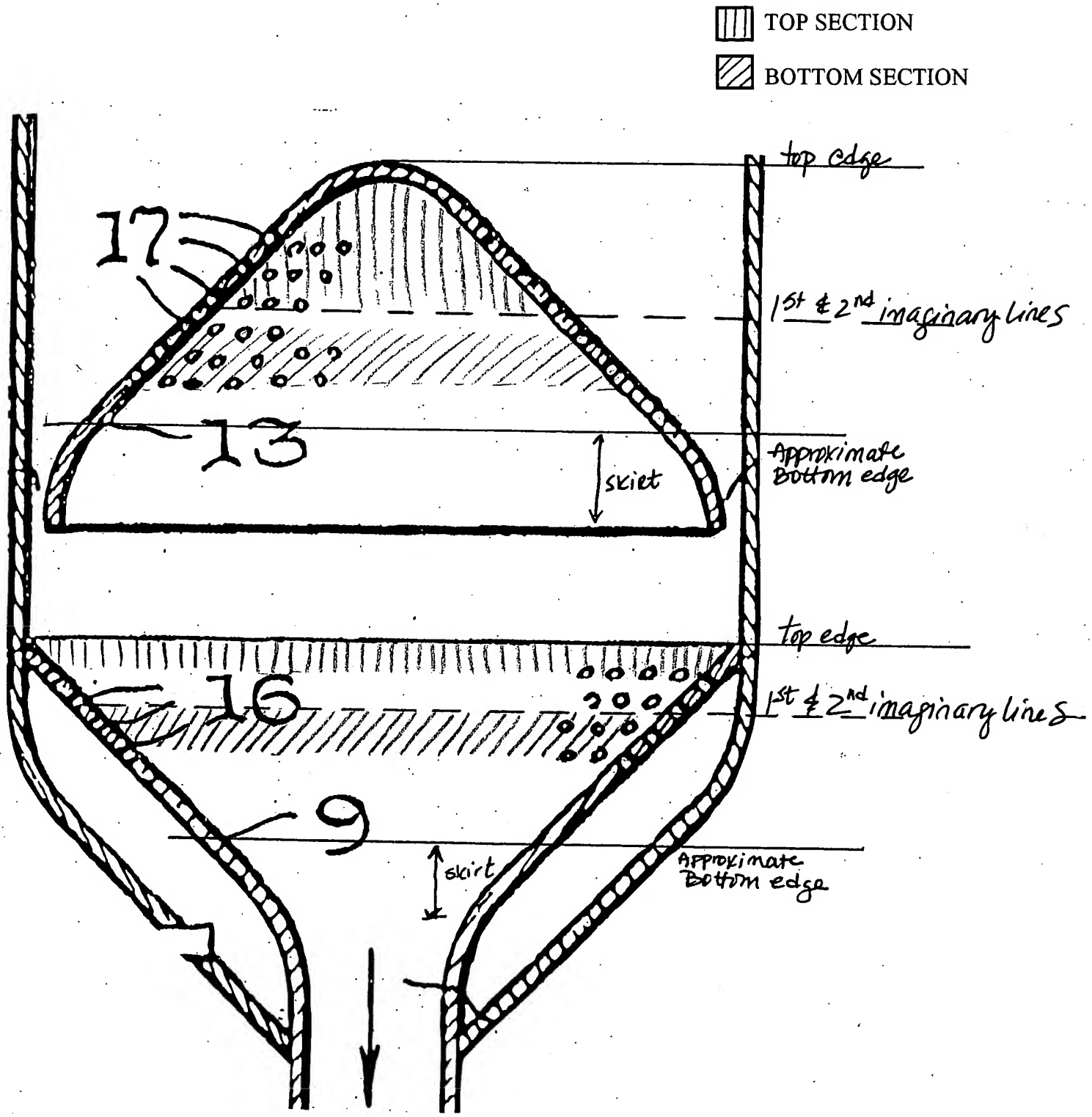
EXAMPLE A

(Enlargement of FIG. 1 from Ostergaard, U.S. 2,519,150)



EXAMPLE B

(Enlargement of FIG. 1 from Ostergaard, U.S. 2,519,150)



In each example, the "ratio of the total area of openings in the bottom section to the area of the bottom section of said baffle" is greater than the "ratio of the total area of openings in the top section to the area of the top section of said baffle."

***Conclusion***

7. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

* * *

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jennifer A. Leung whose telephone number is (571) 272-1449. The examiner can normally be reached on 8:30 am - 5:30 pm M-F, every other Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glenn A. Caldarola can be reached on (571) 272-1444. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent

Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Jennifer A. Leung
September 18, 2005 JAL

Hien Tran

HIEN TRAN
PRIMARY EXAMINER